Dolog AKF125 → A120/A250
Type: AKF125EN
Version: 7.10
Installation
User Instruction

DOK–702082.35–1096

Translation of the German Description
DOK–700565.35–0196

Accompanying software package E-No. 424-275182

Documents in the software package

Kit 1

Documentation	Area of application
Installation User Instruction DOK-702082	Explains the usage and installation of the diskette s included.
How do you proceed? User Instruction DOK-702084	Serves as a ”red thread” through the documentation of the software packet and should be gone over before the start.

Kit 2

Documentation	Area of application
AKF125 for Beginners User Instruction DOK-702083	Serves to introduce new customers to AKF125. The user learns how to use the software in samll steps.
Short Form Guide A120 User Instruction DOK-702087	Tables for validity ranges and symstem markers, SFB-Formal operands for quick use onsite.
Sort Form Guide A250 User Instruction DOK-702088	Tables for validity ranges and symstem markers, SFB-Formal operands for quick use onsite.
Configuration A120 User Instruction DOK-702085	Contains the new features of the current version and explains th efunctions of th individual software menus for the configurer.

Kit 3

Documentation	Area of application
Configuration A250 (Vo1) User Instruction DOK-702086	Contains the new features of the current version and explains th efunctions of th individual software menus for the configurer.
Configuration A250 (Vo2) User Instruction DOK-707695	The explanation of the individual software menus will continued.
Masterindex User Instruction DOK-702089	Index of all documentation.

Notes

Application Note

Caution The relevant regulations must be observed for control applications involving safety requirements.
For reasons of safety and to ensure compliance with documented system data, repairs to components should be performed only by the manufacturer.

Training
Schneider Automation GmbH offers suitable training that provides further information concerning the system (see addresses).

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Terminology

Note This symbol emphasizes very important facts.

Caution This symbol refers to frequently appearing error sources.

Warning This symbol points to sources of danger that may cause financial and health damages or may have other aggravating consequences.

Expert This symbol is used when a more detailed information is given, which is intended exclusively for experts (special training required). Skipping this information does not interfere with understanding the publication and does not restrict standard application of the product.

Path This symbol identifies the use of paths in software menus.

Figures are given in the spelling corresponding to international practice and approved by SI (Système International d‘ Unités).
I.e. a space between the thousands and the usage of a decimal point
(e.g.: 12 345.67).

Abbreviatons

ABS	absolute Adressing
Adr.	Adresse (signal adresse)
AE	Block for one time actions
AZ	Block for cyclicel actions
AKF	Instructionlist, Contaktplan, Functionlist
ALD	Sequentiel Flow Chart with Diagnostics
ALS	Sequentiel Flow Chart
AWL	Instructionlist
AWP	User programm
BGT	Subrack
BSS	Serviceconnection for PC ore VS210
DAE	Diagnostics Block for one time actions (AE)
DAZ	Diagnostics Block for cyclicel actions (AZ)
DIB	Diagnostics Block for Block independent Diagnostics
DB0....9	SYM/KOM-Datablock for A120
DPB	Diagnostics Block for Programm Blocks (PB)
DSB	Diagnostics Structure Block
DW	Double word
I/O	Input– / Output signales (e.g. from a Module)
FB	Function block
FUP	Function list
FW	Floatingpoint
HW	Hardware (z.B. PLC)
IB	Initial value block
KB	Sequentiel block
KF	Sequentiel errorbit
KFW	Sequentiel errorword
KOP	Kontaktplan
KS	Kettenstatus für Simultankette
LZS	Run Time System
MW	Markerword
OB	Organisations Block
PB	Program Block
PaDT	Programming- and Diagnostics testequipment
RK	Controlloop
SFB	Standard-Function Block
SK	Step marker

SM	Systemmarker
SSP	Signal memory
SW	Software
SYM	symbolic Adressing
SYM/COM	Symbol und Comment
SZ	Step Counter
TB	Transitionsblock
TN	Teilnehmer
VBGT	Virtuelle Subrack (InterBus-S, Modnet 1/IS))
ZVT	Time organiasationtable (Controlle)
ZZ	Time Counter
<Return>	Applay the key Return
<Esc>	Applay the key Esc
<Ctrl>+<Alt>+<Del>	Applay in the same time the keys Ctrl, Alt und Del (beginning with Ctrl.and finnishing with Del)

Objectives

The installation instructions are used to install

- this configuration software
- and communication driver

on the PaDT.

Arrangement of this guide

Chapter 1 Introduction

Chapter 2 Selecting the programming panels and the hardware/software requirements.

Chapter 3 Installing the configuration software and the communication driver.

Related Documents

A250
User Manual A250
804 BHB 000 00

A250
User Manual A250
Regeln mit Dolog AKF
804 BHB 001 00

A250
User Manual A250
Prozessperipherie Frontanschlusstechnik
899 BHB 000 00

A250
User Manual A250
Cable
899 BHB 001 00

A250
Blockbibliothek Standard Funktionblocks A250
Vol. 1 (AKF125 V4.x, ALD25 V4.1)
804 BSB 001 00

A250
Blockbibliothek Standard Funktionblocks A250
Vol. 2 (AKF125 V4.x, ALD25 V4.1)
804 BSB 002 00

Validity Note

These User Instructions apply to the AKF125 software, version 7.1, on the DOS operating system.

The current intention is for **remote control data** only to be edited with the **AKF125** configuration software and **not** with ALD25. Therefore, within systems U250 and UZ250, remote control modules **KOS140**, **KOS141** and **DEZ161** should **not** be used as REAL–TIME variants.
Correspondingly, the **KOS 20x** modules of the U120, Z120 and UZ120 systems are **not** to be used.

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Chapter 1
Introduction

1.1 Overview

The present publication describes the installation of the Modicon software packages. The software is valid for IBM-compatible personal computers running under the MS–DOS operating system, and in particular for IBM-compatible programming panels from AEG Schneider Automation.

The software installation of Modicon Software is menu-driven. This ensures that user files installed previously cannot be destroyed. Even if you already have the operating system installed, we advise you to set up the personal computer with this software on Modicon Software (for computers with hard disks)

☞ **Note:** Programming panels will from now on be called PaDT (Programming and Debugging Tool).

You can use your PaDT, together with the available software, to program the A250 programmable controller. The programs can be compiled, logged and archived with the help of the programming panel.
You can also use EPROM programming panels (EPS 2000) to program EPROMs.

Chapter 2
Prerequisites of AKF125

In this chapter you will learn about the prerequisites for programming panel selection and for the hardware and software.

☞ **Note:** For features of the software packages please see the Modicon catalogues for the programmable controllers.

2.1 Panel Selection/Prerequisites

2.1.1 Important Notes

☞ **Note:** Optimum operation is guaranteed by the panels P510-40 (from panel index .03), P610 (from panel index .03), P610C, P810 P820C, P840C. From this index the programming panels are supplied from stock with memory upgrade installed (incl. driver installation). You will find the panel index on the silver plate (underneath the panel), marked Rev.

⚠ **Caution: MS-DOS versions 3.3 or higher: The MS-DOS command APPEND may not be used in connection with this software, or the APPEND command must not lead to AKF directories.**

⚠ **Caution: Do not start any memory–resident or interrupt–controlled PC programs in parallel with this project software (memory utilization too great).**

⚠ **Caution: Remember the DOS–specific incompatibility of files created with the backup command (applies to DOS version 5.0 or higher).**

2.1.2 Prerequisites of Programming Panels

- The programming panels offered by ASAD in its price lists. These panels are IBM-AT compatible PCs with the features shown below:
  - Hard disk (e.g. 70 MByte)
  - 3 1/2 ” (1.44MB) diskette drive
  - file CONFIG.SYS in accordance with chapter 2.1.3
  - at least 4 MByte RAM, of which not used main memory (MS-DOS) before calling up AKF125: at least **590** KByte
  - no memory–resident programs started on the PaDT
  - MS-DOS version 5.0 or higher

  - COM1 for operating the PLC on the PaDT (for uploading the program, initial start–up)
  - COM2 optional, for connecting a mouse or a printer (for configuration, documentation, monitoring)
  - LPT1 optional, for connecting a printer (for configuration, documentation, monitoring)

2.1.3 DOS Prerequisites

For this software to function reliably on the PC the following points must be observed:

- The system file **CONFIG.SYS** contains the following entries:

  - DEVICE=C:\DOS\HIMEM.SYS
    DEVICE=C:\DOS\EMM386.EXE 2048 RAM x=C800-CFFF
    DOS=HIGH,UMB
    FILES=30
    BUFFERS=20
    COUNTRY=049,437,C:\DOS\COUNTRY.SYS
    DECIVEHIGH=C:\DOS\SMARTDRV.SYS 1024 512
    DEVICEHIGH=C:\DOS\ANSI.SYS

To reach a useful working speed, the run–time system of AKF125 needs add–on memory to LIM EMS 3.2 or 4.0 incl. 64 KByte page frame (**RAM**), as entered above.

The expanded memory (EMS) should be at least 256 KB in size. Further increases in speed can be reached by expansion by up to 2 MB. Any expansion beyond 2 MB will not be used by AKF125.

☞ **Note:** For using COMAKF a memory area is reserved for the interface module (BIK003). This area is dependent on the address specified on the BIK. The available areas are: **C800 - CFFF** (as supplied),
D000 - D7FF and
D800 - DFFF
This reservation is performed in a line of file **CONFIG.SYS**.

Example of a BIK address C800 (as shipped)
DEVICE=C:\DOS\EMM386.EXE 2048 RAM **x=C800-CFFF**

This reservation is performed automatically when the BIK is installed. However, if the address of the BIK is modified **subsequently**, the entry in the file must be **modified** accordingly.

⚠ **Caution: On PCs with 486 processors only BIK 003 driver version ≥ 2.10 is allowed.**
These drivers can only be used on IBM-AT PCs, XT-PCs are not **supported.**

❒ The system file **AUTOEXEC.BAT** contains the following entries:

```
□ @ ECHO OFF
  PATH C:\;C:\DOS
  PROMT $P$G
  SET TEMP=C:\TMP
  LH C:\DOS\KEYB UK,,C:\DOS\KEYBOARD.SYS
  LH DOSKEY
  VER
  REM C:\DOS\DOSSHELL
```

☞ **Note:** A German or a British keyboard can be used for AKF125. The appropriate keyboard driver must be loaded to correspond to the keyboard layout. The driver is activated in the file AUTOEXEC.BAT. The British keyboard driver is loaded in the specimen files. If the German keyboard driver is to be loaded the entry "...**KEYB UK**,,C:\...." must be replaced by "...**KEYB GR**;;C:\...".

2.2 Generating a backup copy

A backup can be made of every original diskette included in the software package. To do so the required number of blank diskettes (corresponding to the number of original diskettes) should be kept available.

Once you are in the operating system, proceed as follows:

Step 1 Type ”Diskcopy a: a:”.

Step 2 Follow the instructions on the screen.

Step 3 Answer the question ”Make further copies (Y/N)?_” with ”Y” until all the original diskettes have been copied.

☞ **Note:** Label the backup copies to match the original diskette(s). Store the original diskettes in a safe place. Make sure that the data cannot be destroyed.

Chapter 3
Installation

In this chapter you will learn about the installation of AKF125 and the communication driver.

3.1 install software

The software and the communication driver are installed using the prepared bakkup copies.

☞ **Note:** Nothing needs to be deleted to overwrite an old software version with a more recent one. The old files are automatically overwritten by the command ”A:INSTALL”.

☞ **Note:** Please do not work on the originals but instead first create backup copies, see Chapter 3.2.

3.1.1 Installation of the AKF125 software

Step 1 Make sure that your programming panel meets all the requirements stated in chapter 2.1.

Step 2 If you have modified the files CONFIG.SYS or AUTOEXEC.BAT, reset the PaDT with a <Ctrl>+<Alt>+<Del> (”warm restart”)

Response The user drive message is displayed (e.g. C:\)

Step 3 Insert diskette #1 in the diskette drive

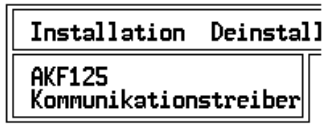
Step 4 `Enter A:INSTAL and <Return> (A: here stands for the letter of your diskette drive)`

Step 5 Enter the drive into which you have inserted the program diskette (default A:) and confirm with <Return>.

Response The installation program prompts

Step 6 Open the installation menu with <Return>

Response The selection window software/driver opens, the bar is on AKF125.



Step 7 Start the software installation by pressing <Return>

Step 8 |Follow the instructions on the screen.

Step 9 If you do not want to install any driver, move the bar to End with <→> and press <Return>.

You can now call the configuration software (cf. Chapter 4.4).

3.1.2 Installation of the Communication Driver

☞ **Note:** For AKF125 you can currently install a driver for the Modnet 1/SFB network with BIK 003.
Only one driver can be active at a time. If a second driver is installed the first driver will be overwritten.The driver installation may be done separately from the software installation.

⚠ **Caution: For PCs with 486 processors (e.g. P810, P820C) only BIK 003 driver version ≥ 2.10 is allowed.**
These drivers can only be used on IBM-AT PCs, XT PCs are not supported.

If you install the software and the driver directly after each other, start with Step 2.

Step 1 Insert the diskette supplied with your BIK module in the diskette drive

Step 2 `Enter A:INSTAL and <Return> (A: here stands for the letter of your diskette drive)`

Step 3 Enter the drive into which you have inserted the program diskette (default A:) and confirm with <Return>.

Step 4 Open the installation menu by pressing <Return>

Step 5 Move the menu bar onto ”Communication Driver” with the arrow keys and press <Return>

Step 6 Follow the instructions on the screen. The following texts discuss the parameter settings

After confirmation that you want to use Modnet 1/SFB, the following window is displayed:

You can choose between

- communication controller type: BIK 003*
- Dualport RAM address: C800*, D000, D800
- user-interrupt 60, 61, 62*, 63, 64

* shows the menu default settings

If you do not want to use C800 as the dualport address during installation, then you must also modify the bridges to the BIK module (cf. the appropriate module description).

Step 7 Set the parameters to the required settings by selecting the lines with the arrow keys and toggling with <Return> (the line with the menu bar is always modified)

Step 8 Move the menu bar to ”Confirm entry” and press <Return>

Step 9 Move the menu bar to ”End” with the arrow keys and confirm with <Return>

☞ **Note:** The file CONFIG.SYS is automatically modified.

You can now call the configuration software (cf. Chapter 4.4).

3.1.3 Deinstallation

After pressing <Return> the following window is displayed:

The deinstallation functions delete the software files on your programming panel. Your systems and stations are not affected.

3.1.4 End

This menu item is used to leave the installation program after completing installation. You can terminate software installation at the specified points by pressing <Esc>. In which case, the user diskette drive prompt will immediately return (e.g. C:\).

3.2 Calling the Software DOLOG AKF → A120/A250

Start the software at MS-DOS level (see Table 1, page 15).

Table 1 Starting the Software

Entry	Recommendation for monitor
`AKF125` <Return>	–
`AKF125 /COL`<Return>	Colour monitor
`AKF125 /BW`<Return>	Liquid Crystal Display and Plasma Monitor
`AKF125 /GY`<Return>	Monochrome monitor
`AKF125 /NOSPS`<Return>	applies to operation of the mouse on port COM1

Note: After installation you will be in the configuration section of A250. To run A120 the ALU type must first be changed (cf. user instructions ”How do I proceed?”, Chapter 1).

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